

Annex D – Best practice of green public procurement factsheet

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Best practice of green public procurement factsheet	
Promotion of Green Public Procurement and on –line purchasing in Korea	
Background	Year: 2002
<p>In 2002, the Public Procurement Service (PPS) of Korea launched an on-line service for procurement, named (KONEPS). The on–line E-procurement (www.pps.go.kr/english/), service is an electronic contract system that enables quick and easy acquisition of products. This e-procurement service has been awarded as best practice, mainly due to the high volume of trade and the savings achieved in the cost of public procurement.</p> <p>In addition the platform has been promoting the acquisition of green goods and services through different initiatives:</p> <ul style="list-style-type: none"> • <u>Integrated webpage for public green purchasing information (http://green.pps.go.kr)</u>: this website wants to encourage public officers the adoption of greener products in their daily purchasing decisions. In the past, contracting officials of public organizations struggled with purchasing green products as related certifications and legal structure were too complicated. However, the launch of webpage made easier for the officials to access to the information and make a purchase of green products. The website is only in Korean. • <u>Green products mall</u>: to encourage green purchasing through KONEPS, PPS launched green products mall composed of products awarded with Environment Mark, Good Recycled (GR) Mark, High Efficiency Equipment Certification, and Energy Saving Certification at KONEPS. The green products are organized by product names to make the shopping mall more user-friendly and support green products' market access. http://shopping.g2b.go.kr, only in Korean. 	
Objectives	
<p>Through the development of the on–line procurement and the support of websites on environmental products (green products mall) and the green purchasing website, the Korean government aims to:</p> <ul style="list-style-type: none"> • Increase the efficiency and transparency of the procurement and reduce the paperwork and meetings. • Provide clear information on green products to officers. • Encourage green purchasing, through the green products mall which is organized by product names. 	
Definition of environmental criteria	
<p>Environmental criteria for the selection of products were defined in order to increase the market's share of green products. PPS embedded in 2010 "public procurement minimum environmental standards product" in the public procurement practices.</p> <p>The minimum environmental standards were based on the United Kingdom's "Quick Wins" standards for products launched in 2003. In 2008, the number of products "Quick Wins" were improved and expanded. The criteria were updated with the inclusion of voluntary best practices and mandatory minimum standards.</p>	

PPS set the "Green Product Selection Committee" composed by the Ministry of Strategy and Finance and Ministry of Environment, with other entities to define the minimum environmental standards. The Committee, through public hearings in November and December 2009, designated 18 items, the most highly demanded, as minimum environmental standard products.

Minimum environmental standard for computers, washing machines, office machines, appliances and recycled products were designated in January 2010, and others like LED (light-emitting diode) lamps, hybrid vehicles, high efficiency equipment, regeneration ascon and concrete blocks and synthetic wood were additionally designated in August. The minimum environmental standards were also designated for a total of 20 items for safety and sanitation during 2011. It is foreseen a total of 100 items designated by 2013.

Training activities

The Korean PPS delivers training to public officers that are in charge of purchasing with the aim to provide them the knowledge and needed tools to them and, therefore, increase green public purchasing.

PPS launched the green purchasing educational course in the Public Procurement Human Resources Development Center's curriculum in 2010 and has invited professional lecturers and field trips. green purchasing education program is available at PPS-Human Resources Development Center from August 2010:

- Program period: 3days (21hrs), the program to be held twice a year.
- Participants: procurement officers of public organizations.
- Lecturers: professional lecturers from difference specialties of green procurement.

The training program schedule is summarized in the following table:

Table 1. Green Purchasing Training Program Schedule

Category	Relevant policies and regulations	Practical guidelines and Case studies	Site visit	Discussion	Total
Hours	7	8	4	2	21
Portion (%)	33	38	19	10	100

Source: Korean Government's Guidance on Promoting Green Procurement Practice 2010-12-22. PPS Korea.

The program was divided in 3 days, each one centered on one of the following topics:

- Green policy: practical guidelines, KONEPS e-shopping mall, case studies on green public procurement, selection criteria and understanding of eco-friendly buildings and designs.
- Green experience: building information modeling, energy analysis and visit to green manufacturing sites.
- Green practice: understanding green certification, green recycled, saving resources, public purchasing, green practice understanding and discussion on issues related to green growth and green procurement.

Results and environmental benefits achieved

In 2008 PPS purchased and supplied green products worth US\$1.45 billion which accounts for 10.79% of the total domestic procurement (US\$13.9 billion). In 2010 PPS spent about US\$1.6 billion in green product, roughly 10% of the total procurement (US\$15.54 billion).

The evolution of the performance of green purchasing in the period 2007-2010 split by type of products is illustrated in figure 1.

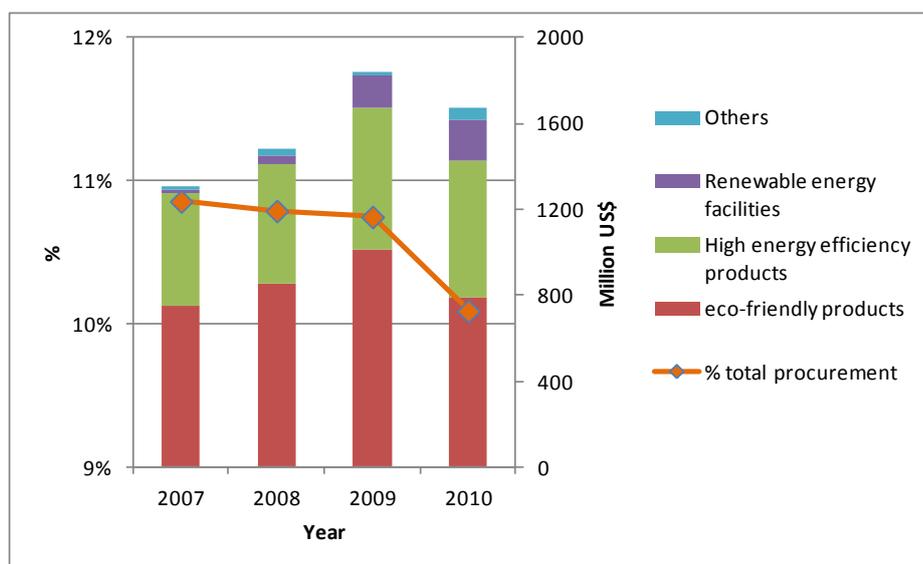


Figure 1. Evolution of annual expenditure in green purchasing in Korea in US\$ million and the percentage of total domestic procurement in the period of 2007 -2010. *Source: PPS, 2010. Annual Report.*

Research conducted in 2009 reported that the direct and indirect cost savings achieved through KONEPS are estimated to be 8 billion USD per year. From this saving:

- USD 1.4 billion was due to administrative cost.
- USD 6.6 billion was due to the reduction in the private sector's transaction cost.

Funding

The annual expenditure of green public procurement was three billion US\$ (green products purchased in 2011), accounting for 20% of total goods purchased.

Monitoring system

Yearly, PPS reports the activities of the Korean public procurement service and green public procurement. Reports are available in the website of PPS.

Way forward and main barriers

Main barriers to the development of GPP policies in the Republic of Korea have been identified as:

- Lack of products in the market that meet environmental criteria defined.
- Lack of information/knowledge about financial benefits of GPP.
- Lack of information /knowledge of environmental benefits of GPP.

PPS has set challenging targets in green procurement, aiming to double the green public market of 2009 up to US\$5.4 billion by 2013. To remove barriers and stimulates the purchasing of green products in the public procurement market, PPS is expanding the incentives and updating the minimum environmental standard products yearly.

Main barriers to be faced and proposed actions within "Strategies to Expand the Green Public Procurement Market For Low Carbon, Green Growth" (13 July 2010) are the following:

Table 2. Strategies and detailed actions to expand green public procurement market.

Main strategies (3)	Detailed plan (16)
Lowering public procurement market barrier for green products	<ul style="list-style-type: none"> • Give advantage in bid assessment process. • Reflect economic benefits from energy saving and other factors in public tendering. • Certify as excellent products. • Ease financial burden of carrying out contract terms. • Eliminate non environmental friendly products.
Building infrastructure to expand public demand for green products	<ul style="list-style-type: none"> • Enact accounting rules on green specifications. • Set up procurement rules to promote green products purchase. • Provide education/training sessions on the comprehensive information network on green procurement. • Adopt and disseminate public procurement carbon cash-back. • Organize statistics on public green purchasing.
Promoting green design and construction in the public sector	<ul style="list-style-type: none"> • Promote green design in public building. • Give advantage to green construction companies in public tenders. • Assist with eco-friendly and energy saving remodeling of public buildings. • Increase the use of eco-friendly and energy saving construction materials.

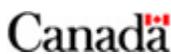
Sources

PPS, 2011. Annual Report 2010. Section 5, Green Procurement.

PPS, 2010. Annual report 2009.

PPS, 2010. Korean Government's Guidance on Promoting Green Procurement Practice.

National Audit Office of United Kingdom, 2009. Addressing the environmental impacts of government procurement. The Stationery Office.

Best practice of green public procurement factsheet	
Information technology procurement in Canada	
Background	Year: 2006
<p>The Canadian federal government's Policy on Green Procurement requires environmental performance to be considered in the planning, acquisition, use, maintenance and disposal of all goods and services. In this sense, the government has specified these requirements, in terms of performance or functional specifications, including environmental aspects.</p> <p>The products within the category of Information Technology (IT) hardware of public procurement in Canada must meet several environmental criteria during the procurement process. The environmental standards are related to the products and to the manufacturer. The products included in the IT Hardware category are:</p> <ul style="list-style-type: none"> • Desktop microcomputers. • Servers. • Mobile. • Storage Area Networks (SAN) and Network Attached Storage (NAS). • Archive/Back-up (Tier 3 Storage: Tape drives, tape autoloaders, tape libraries, tape media and low-cost disk-based backup and archiving). 	
Objectives	
<p>Environmental standards to buy IT hardware within the Government of Canada were first introduced in 1994. Increasingly stringent environmental criteria have been introduced ever since using a phased, iterative approach. The standards cover a wide range of fields in terms of energy consumption, reduction of hazardous materials, design for reuse and recycle, environmental stewardship in the manufacturing process, packaging, supplier engagement and report and billing.</p> <p>Environmental considerations for IT hardware aim to include the whole life cycle approach and the commitment of the supplier to good environmental practices.</p>	
Definition of environmental criteria	
<p>The definition of the key environmental impacts associated with the goods being procured is carried out with a life cycle assessment approach that requires the analysis of each phase of the procurement process: planning, acquisition, use and maintenance and disposal.</p> <p>The Policy on Green Procurement is expected to contribute to environmental objectives, including but not limited to:</p> <ul style="list-style-type: none"> • Reducing greenhouse gas emissions and air contaminants. • Reducing ozone depleting substances. • Reducing hazardous waste. • Improving energy and water efficiency. • Reducing waste and supporting reuse and recycling. • Reducing toxic and hazardous chemicals and substances. 	

For the particular case of IT hardware, the following environmental criteria are included:

Table 3. Environmental considerations in the scorecard for IT Hardware.

Environmental Considerations in the Scorecard for IT Hardware			
Proposed Standard Environmental Considerations for all Contracts			
GoC Commitment to Green Procurement	Standard paragraph stating commitment to integrating environmental considerations into GoC procurement.		
Reports and billing	Invoices and correspondence to be sent and processed electronically. Use of electronic signatures, where client capacity to accept them exists, to reduce paper consumption. Draft reports are sent electronically. Limitations on number of hard copies of documents provided. Paper is certified as originating from a sustainably managed forest and/or has a minimum of 30% recycled content.		
Reduction initiatives	Commodity group has taken action to encourage reduction in consumption. Reviewing asset life extension from 3 years to 4 years or more Optimal hardware specification to facilitate longest life cycle and offset future obsolescence		
Supplier Engagement	Adoption of Supplier supporting ultimate version of EPEAT ¹ standard. Supplier communication to indicate environmental objectives in future years. Successful bidders' environmental information available (within the government, publicly)		
RFSO (Request for Standing Offer) GREEN PROCUREMENT CRITERIA			
Energy Efficiency	<table border="0"> <tr> <td style="vertical-align: top;"> <p>Early adoption of all new versions of Energy Star. EPEAT¹ Gold level - initially desirable, made mandatory 09/09/2010. Intel ACPI or AMD PowerNow. Low Voltage Desktop Processors. Low Voltage Server Processors - where applicable. 80Plus certified efficient power supply. DPMS for monitors. Small Form Factor Desktop. Wake on LAN. Green Grid - server manufacturer membership. Best energyefficiency. Best practices in datacenter operation, construction, anddesign.</p> </td> <td style="vertical-align: top;"> <p>TCO Certified Notebooks 3. TCO Certified Desktops 3. Sever virtualisation capabilities for greater density, higher utilization. LED backlit display technology for monitors and notebooks. User presence detect for auto power down/power up on monitors. New efficiencies with on-board notebook video controllers eliminate the need for separate, discrete controllers. Server and SAN/NAS - Adoption of 2.5 inch hard disk technology -25% more power efficient. EnergyStar 2.0 for Servers - Server NMSO. 80Plus Gold certified power supplies - Server NMSO. Lower power "value" SFF desktop category added.</p> </td> </tr> </table>	<p>Early adoption of all new versions of Energy Star. EPEAT¹ Gold level - initially desirable, made mandatory 09/09/2010. Intel ACPI or AMD PowerNow. Low Voltage Desktop Processors. Low Voltage Server Processors - where applicable. 80Plus certified efficient power supply. DPMS for monitors. Small Form Factor Desktop. Wake on LAN. Green Grid - server manufacturer membership. Best energyefficiency. Best practices in datacenter operation, construction, anddesign.</p>	<p>TCO Certified Notebooks 3. TCO Certified Desktops 3. Sever virtualisation capabilities for greater density, higher utilization. LED backlit display technology for monitors and notebooks. User presence detect for auto power down/power up on monitors. New efficiencies with on-board notebook video controllers eliminate the need for separate, discrete controllers. Server and SAN/NAS - Adoption of 2.5 inch hard disk technology -25% more power efficient. EnergyStar 2.0 for Servers - Server NMSO. 80Plus Gold certified power supplies - Server NMSO. Lower power "value" SFF desktop category added.</p>
<p>Early adoption of all new versions of Energy Star. EPEAT¹ Gold level - initially desirable, made mandatory 09/09/2010. Intel ACPI or AMD PowerNow. Low Voltage Desktop Processors. Low Voltage Server Processors - where applicable. 80Plus certified efficient power supply. DPMS for monitors. Small Form Factor Desktop. Wake on LAN. Green Grid - server manufacturer membership. Best energyefficiency. Best practices in datacenter operation, construction, anddesign.</p>	<p>TCO Certified Notebooks 3. TCO Certified Desktops 3. Sever virtualisation capabilities for greater density, higher utilization. LED backlit display technology for monitors and notebooks. User presence detect for auto power down/power up on monitors. New efficiencies with on-board notebook video controllers eliminate the need for separate, discrete controllers. Server and SAN/NAS - Adoption of 2.5 inch hard disk technology -25% more power efficient. EnergyStar 2.0 for Servers - Server NMSO. 80Plus Gold certified power supplies - Server NMSO. Lower power "value" SFF desktop category added.</p>		

	Thin Client - low power desktop alternative. Electronic Industry Code of Conduct (EICC) member for server, desktop and notebooks.	Ruggedised mobile categories EPEAT ¹ certified.
Reduction of Hazardous Materials	RoHS compliance for Desktops and Notebooks. RoHS compliance for Servers EPEAT ¹ Silver level Gold . TCO '03 compliance for monitors. Electronic Industry Code of Conduct (EICC) member for server,desktop and notebooks. TCO '05 for desktops, notebooks. TCO '06 compliance for monitors.	LED backlit display technology for monitors and notebooks. New efficiencies with on-board notebook video controllers eliminate the need for separate, discrete controllers. Optical drives no longer part of the desktop default configuration - available if requested. Server and SAN/NAS - Adoption of 2.5 inch hard disk technology - 33% increase in density. Ruggedised mobile categories EPEAT ¹ certified.
Design for Reuse and Recycle	TCO '03 compliance for monitors. TCO '06 compliance for monitors.	EPEAT ¹ Gold level. Tool-less desktop assembly.
End of Life Management for reuse and recycle	Manufacturer take back. EPEAT ¹ Gold compliance. RoHS compliance.	
Environmental stewardship in the manufacturing process	ISO 14001 certification. Membership to National Environmental Electronics Industry Association. Member - Electronic Industry Code of Conduct (EICC) governing: Environmental Permits and Reporting.	Pollution Prevention and Resource Reduction. Hazardous Substances. Wastewater and Solid Waste. Air Emissions. Product Content Restrictions.
Packaging	Reduction of added toxics in packaging. Sepearable materials Declaration of recycled content.	Electronic Manuals and support materials available (in lieu of paper). Bulk Pacakaging - multi-unit containers.
Alternate Desktop Client and Server Technology	Thin Client. Thin Client categories modernised and embellished. Small form factor desktop.	High Densisty, low power blade servers available. Increase in the variety of low Power, ultra-portable mobile devices (e.g. slate tablet).

The Government of Canada has developed a website to facilitate the acquisition of computers, called Computer Acquisition Guide (CAG), <http://computer.pwgsc.gc.ca/index.html?CFID=14587689&CFTOKEN=71022502>. The website provides quick and easy access to standing offers for computers and computer-related equipment. The website offers useful information about suppliers, prices, performance specifications, environmental criteria and ordering instructions.

Some of environmental requirements of IT hardware products were defined as desired criteria, which will become mandatory criteria over the years according to the schedule presented in the following figure:

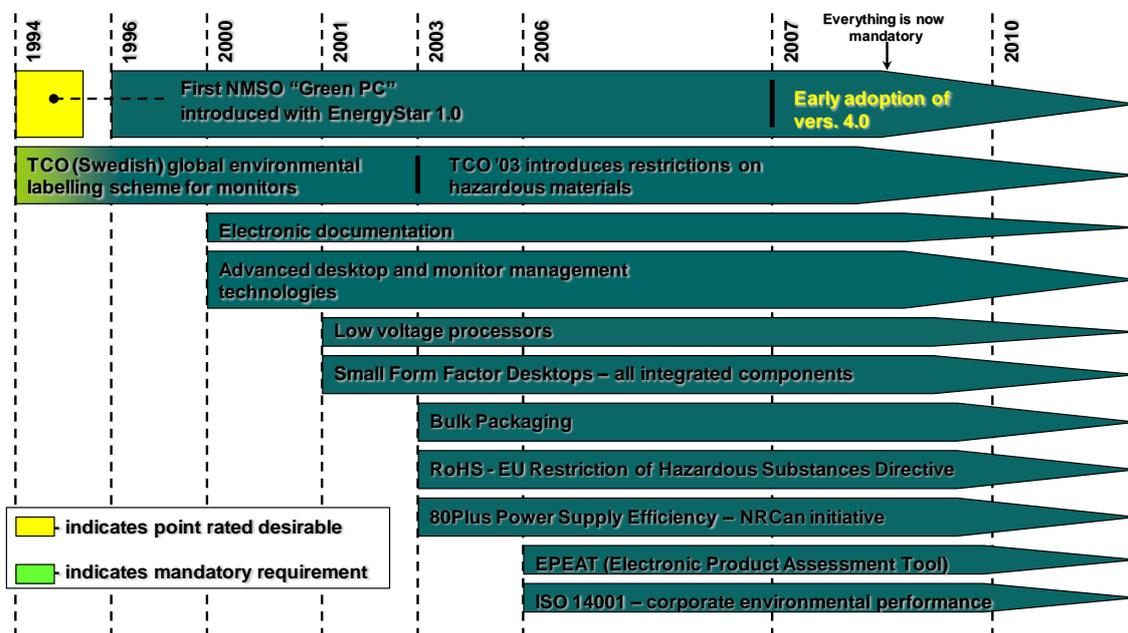


Figure 2. Diagram of evolution of the mandatory and desirable environmental requirements of IT Hardware. Source: *IT Greening, Success Stories, presentation provided by Public Works and Government Services Canada, Acquisitions Branch, Services and Technology Acquisition Management.*

Training activities

Public Works and Government Services Canada (PWGSC) in collaboration with the Acquisitions Branch and the Office of Greening Government Operations hosted a series of webinars on green procurement on seven key goods and services. IT Hardware is one of these goods.

The purpose of this webinar is to help federal government departments access the "greenest" goods and services through PWGSC's procurement instruments and meet their targets related to the Policy on Green Procurement and the Federal Sustainable Development Strategy. These sessions are intended for functional procurement, and material management staff as well as sustainable development coordinators. These webinars provide an understanding of:

- Environmental Impacts of the good/service
- Determination of Green goods/ services and Buyandsell.gc.ca/green;
- Environmental considerations addressed through PWGSC's procurement instruments;
- What you can do to get the "greenest" goods and services
- Purchasing Demos using PWGSC E-tools and Resources.

Regarding training on IT procurement, an online course has jointly been developed by Public Works and Government Services Canada (PWGSC), Treasury Board Secretariat, Environment Canada, Natural Resources Canada and the Canadian School of Public Service (CSPS). It has been designed for functional specialists in procurement and material management in the federal Government of Canada.

This online course introduces the federal government's policy on green procurement and provides detailed strategies and tools for applying its principles throughout the procurement process. The program of the training includes the understanding of the benefits from buying green, eco-label schemes and how to evaluate environmental performance claims. Federal employees also have on-line access to a Green Procurement Webinar on IT Hardware and a Step-by-Step Guide on Greening IT Hardware to guide them in the green procurement of IT Hardware.

In addition, departments and agencies should identify their positions and define their related operational and training requirements based on their own procurement processes.

Results and environmental benefits achieved

Besides the contribution to environmental objectives from the adoption of green procurement listed in the environmental criteria section, the Government of Canada expects to influence the market of environmentally preferable goods and services.

Environmental benefits expected with the implementation of the Policy on Green Procurement in the acquisition of IT Hardware were estimated in the report published in 2008 by TerraChoice. The report determined energy savings, greenhouse gas savings, air emissions savings, water emissions savings, toxic material savings, municipal solid waste savings, hazardous waste savings resulted from the procurement of IT products with environmental attributes in comparison with purchasing in 2003. The table below summarizes the environmental benefits achieved:

Table 4. Summary of environmental benefits achieved as a result of purchasing a 2008 (post-PGP) IT hardware unit compared with a 2003 (pre-PGP) unit. Savings were determined by subtracting pre-PGP values from post-PGP values.

Environmental Impact	Environmental savings for one average IT Hardware Unit *
Total Energy Saved (kWh/unit/lifetime)	470.31
Total Greenhouse Gases Saved (kg CO ₂ equivalents/unit/lifetime)	102.58
Total Air Emissions Saved (kg air emissions/unit/lifetime)	1904.42
Total Water Emissions Saved (kg water emissions/unit/lifetime)	3.99
Total Toxic Material Saved (g toxic material/unit)	52.48
Total Municipal Solid Waste Saved (kg MSW/unit)	3.77
Total Hazardous Waste Saved (kg hazardous waste/unit)	1.97

*Average of 2 Desktops and 1 Notebook

Source: TerraChoice (2008), *Environmental Benefits Following the Implementation of the Government of Canada's Policy on Green Procurement (PGP) for IT Hardware (Desktops and Notebooks) and Printers*. Office of Greening Government Operations.

Funding

Implementation of the Policy on Green Procurement is conducted within existing funding levels. No additional funding has been sought or provided for green procurement.

Monitoring system
<p>All departments are required to report their forecasted and actual progress on green procurement annually through publically available parliamentary reports (the Report on Plans and Priorities (RPP) and Departmental Performance Report (DPR), respectively.)</p> <p>An evaluation framework and government-wide performance measures were developed in order to monitor the policy implementation as well as assess its effectiveness.</p> <p>Monitoring of the inclusion of environmental specifications and evaluation criteria in centrally managed procurement administered by Public Works and Government Services Canada is ongoing.</p>
Main barriers and way forward
<p>The barriers encountered were associated with the early adoption of the emerging stewardship criteria. Industry was reluctant to manufacture green products due to users would prioritize price, feature sets or aesthetics well before any consideration for environmental responsibility. Nowadays, these barriers have been overcome due to environmental awareness' raise.</p> <p>Implementation of green procurement has focused largely on integrating environmental considerations into centralized procurement instruments and developing tools and guidance for purchasing within the federal government.</p> <p>Moving forward, efforts to increase employee awareness and engagement should continue. In addition, increased attention could be placed on areas of federal purchasing that are decentralized.</p>
Sources
<p>http://www.tpsgc-pwgsc.gc.ca/app-acq/ae-gp/paer-cgpp-eng.html</p> <p>http://computer.pwgsc.gc.ca/index-eng.cfm?fuseaction=gao_cag.accueil-home&lang=eng</p> <p>Federal Sustainable Development Strategy Guideline for Target 8.11: Setting Green Procurement Management Framework Targets. The Office of Greening Government Operations. November, 2010. FINAL version 2.0</p> <p>Federal Sustainable Development Strategy Guideline for Target 8.11: Setting Green Procurement Management Framework Targets. The Office of Greening Government Operations. November, 2010. FINAL version 2.0.</p> <p>Guideline for Greening Services Procurement. Final Version – June 8, 2009.</p> <p>TerraChoice (2008), Environmental Benefits Following the Implementation of the Government of Canada's Policy on Green Procurement (PGP) for IT Hardware (Desktops and Notebooks) and Printers. Office of Greening Government Operations.</p>

Best practice of green public procurement factsheet	
Green policy in vehicles procurement in New Zealand	
Background	Year: 2008
<p>The Sustainable Government Procurement Project, launched in 2006 by the government of New Zealand aimed to provide targets and minimum environmental standards, tools, templates and training to public procurers creating a common understanding about green procurement.</p> <p>As a result of its implementation, standards, guidelines and targets have been set. In particular, a number of priority categories have been designated and the minimum sustainability criteria have been defined.</p> <p>Standards have been developed for four priority categories: paper (recycled content, duplexing etc), timber and wood products (legally sourced and sustainably produced), travel (motor vehicles, air travel/video conferencing) and light fittings.</p> <p>The green procurement policy for motor vehicles is a good example as it is based on the 3 pillars of sustainability:</p> <ul style="list-style-type: none"> • Environmental (reducing emissions). • Economic (vehicle maintenance). • Social (vehicle safety and driver behavior). 	
Objectives	
<p>Through the implementation of the Sustainable Government Procurement Project public administration aims to accelerate the adoption of sustainable practices in public procurement in areas of greatest impact in New Zealand. The project support to:</p> <ul style="list-style-type: none"> • Government leadership in sustainability. • Raise awareness and increase knowledge of sustainability issues in the government market. • Develop a common guidelines and standards to sustainable procurement across public agencies. 	
Definition of environmental criteria	
<p>Within the Sustainable Government Procurement Project, standards, guidelines and targets for green public procurement have been defined by the "Category Review Teams". These teams have elaborated a set of a minimum standards and targets for departments and the information materials for procurers on how to consider and integrate environmental criteria into purchasing practice.</p> <p>The Category Review Team for motor vehicles have developed the standards and reviewed the targets. Table 5 collects the standards organized by the three fields of sustainability.</p>	

Table 5. Environmental standards for vehicle public procurement

Field	Consideration	Standard
Social	Safety Rating	<p>Consider vehicles with safety ratings higher than ANCAP 4¹ when available, for all vehicles purchased, leased or hired</p> <p>Give priority consideration to vehicles fitted with an electronic stability control system (ESC) for delivery from 2008 when ESC is available and practicable for purpose (for all vehicles purchased, leased or hired)</p> <p>Consider vehicles with additional safety features for all vehicles purchased, leased or hired</p> <p>Develop a safe driving policy for all drivers engaged in driving vehicles that are purchased, leased or hired</p>
Environmental	Reducing harmful emissions	<p>Consider vehicles with higher emissions standards when leased or hired and delivered from the end of 2010</p> <p>Remove older vehicles (ie, pre-Euro 4² or equivalent), which are likely to be high emitters, from departmental vehicle fleets that are owned or leased by 2010 or earlier, wherever possible</p>
	Fuel consumption*	<p>Actively reduce fuel consumption across the department's fleet of light motor vehicles (i.e., cars, vans and small trucks), and highlight the methods to be used in the travel plan (i.e. changing drivers' habits and behaviors)</p> <p>Incorporate in specifications the 'point-of-sale' labelling information for fuel consumption for light vehicles, once it becomes available</p>
	Renewable fuel	<p>Invite suppliers to include options for the use of renewable fuels in their responses to tender exercises for the purchase, lease or hire of vehicles. Renewable fuels include biofuels, electric, and road fuel gases</p> <p>Consider in tender evaluations that, when available, all petrol-driven vehicles purchased, leased or hired are able to run on bio-ethanol-petrol blends of 10 per cent ethanol</p> <p>Consider in tender evaluations that, when available, all diesel-driven vehicles purchased, leased or hired are able to run on low-level blends of bio-diesel</p> <p>Consider, when available, electric vehicles that utilise renewable electricity</p>
Economic	Vehicle maintenance	<p>Have a planned preventative maintenance programme in line with the manufacturer's recommendations and specifications for all vehicles in the fleet</p> <p>Have a fully auditable maintenance record that includes a history of all work carried out and associated costs for all vehicles in the fleet</p>

*Fuel consumption also can be considered as economic consideration.

¹ ANCAP is the Australasian New Car Assessment Programme that assesses models for the Australian domestic market.

² Euro 5 standard for petrol-operated vehicles and diesel-operated heavy vehicles (ie, over 3.5 tonnes) are expected to be available from 2010.

Training activities
<p>The New Zealand Procurement Academy assists public and private sector procurement practitioners and generalists in accessing procurement training courses and undertake study towards internationally recognised procurement qualifications.</p> <p>Training options include study for an Advanced Diploma in Procurement from the Chartered Institute of Purchasing & Supply Australasia that includes sustainable procurement studies. In June 2009 about 200 government employees had been on sustainable procurement training.</p>
Results and environmental benefits achieved
<p>Within the implementation of the Sustainable Government Procurement Project and the definition of sustainability standards for purchasing motor vehicles, the government wants to improve values for money over whole life from departmental expenses reduce cost savings and foster the development of low carbon technologies whereas protecting the environment.</p>
Funding
<p>The Sustainable Government Procurement Project is a public initiative, funded by the government.</p>
Monitoring system
<p>The Sustainable Government Procurement Project has focused their efforts, so far, in the establishment of common environmental standards and guidelines in vehicle purchasing. Through the development of studies and projects the government is currently reviewing the performance on green procurement of public department and agencies.</p>
Main barriers and way forward
<p>According to the Green Sustainable Project, new challenges would be identified over the progress of the adoption of sustainable purchasing of vehicles. The project should support the analysis about the needs of the government agencies such as:</p> <ul style="list-style-type: none"> • Ensuring that sustainable public procurement is compatible with legal and regulatory frameworks and trade policies • Long-term political commitment to sustainable public procurement. • Application needs to be consistent and well thought through. • Local and central government not aligned.
Sources
<p>Ministry of Economic Development, 2008. Sustainable Government Procurement Project Category Reviews. Standards, guidelines, and targets for core Public Service departments. First revision.</p> <p>Australian Procurement and Construction Council, 2007. Australian and New Zealand Government Framework for Sustainable Procurement.</p> <p>New Zealand Business Council for Sustainable Development, 2009. Sustainable Procurement in Government. Opportunities for Business.</p>

Best practice of green public procurement factsheet	
EPP Program of Massachusetts Government	
Background	Year:1994
<p>The Commonwealth of Massachusetts' Environmentally Preferable Products (EPP) Procurement Program (EPP Program) started in 1994 at the Operational Services Division (OSD). Since then, the EPP Program has been an important resource for the Commonwealth agencies and departments, local government, school districts and higher education, as well as other governments and organizations across the economy with respect to environmental purchasing. The EPP Program has met or exceeded its established goals on an annual basis and has increased its expenditure in green products from 5 US\$ million in 1995 to over \$305 million in 2011.</p> <p>The EPP Program has been recognized as one of the first comprehensive efforts in the adoption of green criteria in purchasing in states government. Over the years, the Program has received several awards and, in 2009, the program director was personally honored with Governor's Manuel Carballo award for excellence in public service.³</p> <p>Main primary EPP Program initiatives include the following:</p> <ul style="list-style-type: none"> • Working with the staff at OSD. • Participation in the development of green purchasing standards. • Extending the current program to a broad audience that includes small businesses, educational purchasing cooperatives, consumers and others. • Supporting business community in understanding the benefits of covering the current demand in EPPs by the state. • Helping interagency teams to implement the green initiatives. • Updating and simplifying the online tools to track both the economic and environmental benefits of using EPPs. 	
Objectives	
<p>The main goal of the EPP Procurement Program is to foster the Commonwealth green procurement in order to reduce the environmental and health impacts of the state government's activities. The EPP Program aims to stimulate markets for recycled content products and promote the purchase of those goods and services that conserve energy, water and other resources while reducing waste and toxic substances.</p>	
Definition of environmental criteria	
<p>Massachusetts defines EPPs as products and services that have a lesser or reduced effect on human health and the environment when compared to competing products and services that serve the same purpose. The EPP Program is in charge of incorporating environmental standards and criteria into the state contracting process. Examples of EPPs include:</p>	

³ www.mass.gov

- Recycled-content paper and plastic products.
- Waste reducing compostable items.
- Reduced-toxicity cleaning products and practices such as integrated pest management.
- Furnishings made with sustainable materials.
- Renewable energy and alternative-fuel vehicles.
- Water conservation practices and devices.
- Energy efficient office and industrial equipment, lighting and fixtures.

The OSD has prepared the "Guide on Recycled and Environmentally Preferable Products and Services" in an attempt to assist Commonwealth agencies and political subdivisions in identifying and procuring such kind of products and services.

The guide provides introductory information on purchasing environmentally preferable products and accessing statewide contracts. In addition, it provides information about the products and services related to recycling or other EPP. For each of the products/services listed, the guide provides:

- A summary of the items with recycled content or other environmentally preferable features.
- List of contractors (i.e. vendors on contract) who offer EPPs.
- OSD (or lead agency) contract manager as well as OSD's EPP contact person.
- Actual product pricing (where possible).
- Sources of additional information/tips for using the contract.

So far, 47 products and 7 services are included in the guide. The EPP Program is scheduled to update the guide twice a year to include new EPPs. Latest guide (September 2012) is available for downloading at the EPP Program of Massachusetts Government.⁴

In addition, EPP Program is currently preparing product and service factsheets to provide purchasers with a summary of selected environmentally preferable products and services currently available in the marketplace.

Training activities

Training activities is one of the most active initiatives of the EPP Massachusetts Program. During FY⁵ (fiscal year) 2010–2011, EPP participated in 13 training activities. The main objective is to contact buyers and business through the organization of several events. The following is a list of some of the interesting sessions:

- Healthy Schools Network (HSN): September 2010 – The EPP Program provided information on the Massachusetts statewide contract green cleaning products, programs, equipment and supplies and the progress the state has made on green cleaning initiatives. www.healthyschools.org/index
- OSD's Training and Outreach Agency Workshop: September 2010 – The EPP Program director and OSD's training director conducted a training session on the requirements of Executive Order 515 and how to use statewide contracts to achieve compliance.

⁴ <http://www.mass.gov/anf/budget-taxes-and-procurement/procurement-info-and-res/procurement-prog-and-serv/epp-procurement-prog/publications-rpts-and-tools/guides-to-epps-on-massachusetts-state-contracts.htm>

⁵ Fiscal Year: July 1st.– June 30th .

- Leading by Example Awards at the State House: October, 2010 – OSD and the EPP Program supported this event by conducting outreach to state agencies and municipalities to encourage participation.
- Supplier Diversity Office (SDO) Kick-off Conference: October, 2010 – the Program staffed a table to speak about the benefits of offering green products and services for the purpose of encouraging women/minority owned businesses to adopt EPP policies.
- EcoLogo Standards Development for CCD-146: June, 2011 – This process involved several conference calls with organizations across the economy and a final submission of comments on how the EcoLogo CCD-146 Standard for hard surface cleaning products should be updated.

Results and environmental benefits achieved

The EPP Program has developed model contract language for dozens of statewide contracts and hundreds of products to enable public purchasers to incorporate green public procurement measures.

The main results reported by the EPP Program in the FY 2011 are:

- An increase of 6% in the purchase of EPPs (from US\$288 million to over US\$305 million over the fiscal year).
- US\$3 million in cost savings and a reduction of 20,000 tonnes of carbon emissions.
- Led the interagency Toxics Reduction Task Force.
- Actively participated in the awarding of three new statewide contracts that include EPPs.
- Recognized by the US Environmental Protection Agency for innovative leadership in utilizing state contracts to achieve "best practices" in procuring energy efficient equipment.

One of the key components of the EPPs Program best case consists in the creation and dissemination of tools that associate the purchase of green products with the environmental and financial benefits achieved. Thus, procurers know potential benefits, in terms of environmental and costs savings, from the inclusion of environmental standards in procurement. Within this context, EPP developed the calculator EnviroCalc.

EnviroCalc is an excel spreadsheet tool designed by OSD's EPP Program staff to calculate energy and cost savings. It has the capability to quantify environmental benefits for a number of products made with recycled materials. The outputs of the spreadsheet are based on data gained from product suppliers, obtaining credible information for public purchasers. The user introduces the number of products that meet environmental standards and the EnviroCalc estimates the energy savings, monetary savings based on energy conservation, greenhouse gas (GHG) emission reductions, weight of materials recycled, weight of materials reused, landfill space savings, number of trees saved and avoided oil extraction.

Besides, EnviroCalc the EPPs Program website disseminates other tools such as:

- Energy Star Savings Calculator: to estimate the energy consumption and operating costs of office equipment and the savings generated from using the power management features built into the equipment (developed by US EPA).
- EPEAT, The Electronic Product Environmental Assessment Tool: to select desktop computers, notebooks and monitors based on environmental attributes. EPEAT was created by the non-profit organization Zero Waste Alliance.
- HEV Cost Calculator Tool: to determine the costs and benefits of using hybrid electric vehicle instead of fuel vehicles. The calculator was developed with the support of U.S. Department of Energy.

<p>Funding</p>
<p>The Environmentally Preferable Products (EPP) Purchasing Program is funded by the regional Government and administered by the Operational Services Division (OSD).</p>
<p>Monitoring system</p>
<p>The EPP Program annually tracks the purchases made by state agencies and other entities using the statewide contracts in order to illustrate the impact of their efforts on Commonwealth purchasing practices.</p> <p>To this end, the EPP Program requires contract vendors to report their sales. The periodicity of reports from contract vendors has been changed in 2012 to increase the accuracy of the data obtained.</p>
<p>Main barriers and way forward</p>
<p>The tracking of purchases made by all statewide contract vendors identifies potential challenges for the launch of future initiatives. In FY2011 the EPP reported the following working areas that must be improved:</p> <ul style="list-style-type: none"> • Developing a more efficient and accurate system of tracking and reporting the EPP purchases. • Improving the contract utilization of the green cleaning products statewide contract. • Providing greater support to domestic organizations, and for example with the National Association of State Procurement Officials to raise the awareness of green purchasing benefits. • Collaborating with related agencies and non-profits to build a comprehensive program of education and training. • Researching on-line tools and/or working to improve current tools, to more easily calculate the benefits of environmental purchasing. <p>As a result of the importance given to the strategic sourcing techniques to improve upon the state contracting process, the EPP Program anticipates even greater growth next year in environmental purchasing. EPP is increasing the work on the following strategies in order to improve the performance of the EPP Program:</p> <ul style="list-style-type: none"> • Total cost of ownership, a benefit inherent to most environmental purchases. • Developing a strategy that includes environmental and public health impacts of a purchase. • Tracking purchasing results in order to better direct the success of the long-term procurement.

Sources

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EPP, NASPO Cronin Innovation Award 2005. EnviroCalc, Environmental Benefits and Energy Cost Savings for Purchasers.

Best practice of green public procurement factsheet	
Green Council and Hong Kong Green Purchasing Charter	
Background	Year: 2007
<p>Green Council, constituted in May 2000, is a non-profit organization committed to promoting and assisting Hong Kong's (China) business sector in incorporating good environmental practices into business strategies.</p> <p>Green Council has contributed to the increase of awareness on the purchasing of environmentally preferable goods with the following initiatives:</p> <ul style="list-style-type: none"> • Green Label Scheme: certification of environmentally preferable products. • Hong Kong Green Purchasing Charter (HKGPC): green procurement task force constituted by companies and organizations, international and local advisors and technical vetting committee aimed to guide GPP in Hong Kong, China. • Cyber Green Center: on line platform on environmental products and technologies. • Hong Kong Green Awards: recognition for companies that have pursued and achieved outstanding performance and results in the areas of green purchasing, green management and green governance. • Events and trainings. 	
Objectives	
<p>Green Council has three principal objectives:</p> <ul style="list-style-type: none"> • Raise public awareness for the need of a better environment. • Encourage and improve environmental management and performance of local industries, through the establishment and promotion of the Green Label Scheme. • Promote the image of Hong Kong as a city that gives high importance to environmental protection. <p>These objectives will be achieved through the promotion of: education and training for environmental preservation, green consumerism, green management concepts and practices, easing environmental burden, waste recycling and waste reduction, energy conservation and sustainable development.</p> <p>In relation to green purchasing (green consumerism), the green council launched in 2007, the Hong Kong Green Purchasing Charter (HKGPC) scheme with the ultimate goal of raise awareness and promote the use of green purchasing as a means to reduce and avoid adverse environmental impacts.</p> <p>HKGPC and other local green purchasing networks help organizations to strengthen their green purchasing schemes and accelerate the expansion of the scope of product categories addressed.</p>	

Definition of environmental criteria

Green Council developed the voluntary scheme for the certification of environmentally preferable products launched in December 2000: The Hong Kong Green Label Scheme.



Figure 3. Hong Kong Green Label logo

The aim of the eco-label is to encourage manufacturers to supply products with good environmental performance and provide proper tools for consumers to recognize products that are more environmentally responsible. This label is classified as a type 1 label according to ISO (International Organization for Standardization) 14024, which involves a third-party certification requiring considerations of life cycle impacts. Some of the key criteria contained in these standards also require compliance with applicable legislation.

The procedure for the establishment of product categories and criteria consists of two main stages:

1. Selection of Product Categories.
2. Development of Product Environmental Criteria.

1. The selection of product categories takes into account the following key considerations:

- The concerned product category does pose a potential threat to environmental quality, and cannot be totally replaced by other environmentally benign alternatives.
- Environmental criteria have already been established for the concerned product category in other green labelling schemes.
- The concerned product category is widely used in Hong Kong, China.
- The concerned product category poses no health or safety threat to human beings.

To designate an environmentally preferable product their environmental impacts would be compared with similar products in this category.

2. The development of product environmental criteria involves the following stages:

- (a) Collection of relevant information on other green labeling schemes; market and technological data of the products; and views/suggestions from interested parties such as the supporting organizations, trade associations, manufacturers, suppliers and environmental experts.
- (b) Development of criteria, which consists of:
 - Benchmarking with relevant criteria used in other established green labelling schemes, with focus on schemes that have adopted life cycle analysis (LCA) in their criteria development.

<ul style="list-style-type: none"> • Using LCA approach to ensure applicability and that the environmental criteria used are related to various life cycle stages of the product. • Reference to local applicable standards e.g. the Hong Kong SAR Government's energy efficiency label scheme. <p>(c) Criteria Review and Endorsement: the HKGLS is the final authority in deciding on the environmental criteria to be applied in the scheme.</p>
<p>Training activities</p>
<p>Green Council officials provide its members with training and education on: green procurement; sustainable management concepts and practices; re-use, reduction and recycling; as well as renewable energy alternatives.</p> <p>Since 2008, the HKGPC launches regular seminars and workshop on experience sharing regarding green purchasing.</p>
<p>Results and environmental benefits achieved</p>
<p>According to Green Council, benefits of environmental labels are that consumers can easily recognize products with less environmental impact. Moreover, the manufacturers and suppliers are increasing the financial benefits of producing products with less environmental impact. HKGLS have issued 108 licenses and 66 of them are still operational.</p> <p>For the particular case of Hong Kong Green Label Scheme, the following considerations have been identified:</p> <ul style="list-style-type: none"> • Effective marketing tool: the green label shows the commitment of the manufacturer or supplier with the environment through the easy recognition of the green label. • A sensible cost savings move: the effective use of resources would lead the reduction in the related costs in energy, water. In addition, the costs of waste management will be also reduced.
<p>Funding</p>
<p>The Green Council is funded by membership fees, public donations and sponsorship from organizations, businesses and individuals. Membership category is defined by the staff employed by the applicant:</p> <ul style="list-style-type: none"> • SMEs: manufacturing business which employs fewer than 100 persons in Hong Kong, China; or a non-manufacturing business which employs fewer than 50 persons in Hong Kong, China (from US\$ 259 to US\$775). • Large corporations: manufacturing business which employs more than 100 persons in Hong Kong, China; or a non-manufacturing business which employs more than 50 persons in Hong Kong, China (from US\$ 1290 to US\$6450). <p>There are three types of membership categories, with different obligations:</p> <ul style="list-style-type: none"> • Associate Member: develop and adopt green purchasing policy and strategy in order to meet the core HKGPC membership requirements. • Member: implement, assess, and report on green purchasing policy, strategy, efforts and achievements, in order to evolve to Fellowship Member status. • Fellow Member: "Take the Lead" by demonstrating strong, progressive and sustained corporate social responsibility, while guiding and assisting other organizations in launching and practicing green purchasing.

Monitoring system
Actually the association is constituted by around 50 members, and it would be needed to develop a track system to illustrate the impact of the efforts and activities carried out by the green council.
Main barriers and way forward
<p>Green Council is currently preparing the Green Purchasing Network with the aim to create a close connection between organizations which practice green procurement and environmentally preferable products suppliers.</p> <p>Moreover a monitoring system should be created in order to track the progresses made by their members to analyze the benefits of members from participating in the green council activities and from the Hong Kong Green Label Scheme products awarded.</p>
Sources
<p>http://www.greencouncil.org/eng/hkgpc/overview.asp</p> <p>http://www.greencouncil.org/guidebook/guidebook.htm</p> <p>http://www.epd.gov.hk/epd/english/how_help/green_procure/green_procure6.html</p> <p>International Trade Center, 2011. Hong Kong Green Label Scheme at a Glance. Standards Maps, market analysis tools.</p>

Best practice of green public procurement factsheet	
ECO-Buy - Local action to support GPP in Australia	
Background	Year: 2001
<p>ECO-Buy was born in 2001 as a result of the alliance of 24 local governments to buy recycled products. Nowadays, ECO-Buy has become a non-profit organization with a wide range of services to promote and assist public and private entities to purchase environmentally preferable goods. The associates has raised until 180 members that includes local governments across Victoria and interstate, departments and agencies of the Victorian Government and interstate, higher education institutions and corporate.</p> <p>The support of ECO-Buy enabled local organizations to increase their expenditure in green products from around AUD \$5 million in 2001 to AUD \$70 million in 2008. The reporting of local GPP performance and other activities, such the ECO-Buy's awards, has encouraged institutions to increase their efforts in the adoption of green criteria when purchasing a product.</p> <p>Support services include:</p> <ul style="list-style-type: none"> • Database of environmental products: ECO-FIND. • Trainings and events. • Consultancy services: research on green products alternative, best practices, development of projects, etc. • Organization of trade fairs. • The ECO-Buy Sustainable Procurement Assessment Tool: to measure the sustainable procurement performance (http://assessment.ecobuy.org.au/). 	
Objectives	
<p>The main objective of ECO-Buy consists in influencing the market towards environmentally preferable choices. ECO-Buy undertakes several initiatives in order to achieve this objective providing and assisting organizations with information, tools and knowledge to uptake green purchasing policy.</p> <p>Moreover, the association promotes the supply of green goods and services supporting manufacturers and suppliers with the information needed to reduce the environmental impact of their products.</p>	
Definition of environmental criteria	
<p>ECO-Buy has developed ECO-Find, a database of environmentally preferable products that must:</p> <ul style="list-style-type: none"> • Be environmentally preferable to comparable or competing products or services. • Have attributes that address their major environmental impacts, based on life cycle thinking and assessment. <p>In general, green products included in the database can have one or more of the following attributes:</p>	

- Recycled content.
- Water saving.
- Energy saving.
- Low-toxicity.
- Sustainably sourced materials.

In addition, products already awarded by independent eco-labelling scheme are directly incorporated in the ECO-Find database. The Eco-labels recognised are:

- The Good Environment Choice Label (Australia).
- Equivalent international eco-label (certification body member of Global Eco-labelling Network (GEN)).
- Greentag.

ECO-Buy has already defined environmental criteria for cleaning products, paper, timber products, commercial printing and insulation. For other product categories, a guide of the attributes⁶ that the product must have to be considered in the ECO-Find database has been created. The environmental considerations include:

- Reduced resource intensity.
- Reduced toxicity of raw materials.
- Proven water and energy efficiency.
- Reduced impact on biodiversity.
- Secondary environmental features for consideration.

Training activities

Training is one of the most significant activities developed by ECO-Buy, which offers several courses and workshops both public and in-house. The most popular trainings are provided below as an example outline:

1. Fundamentals on sustainable procurement: to provide basic understanding of the benefits and considerations of sustainable procurement.
2. Green contracts and tenders: this module provides the information needed to procurement staff to incorporate environmental and social criteria in purchasing.

In addition, ECO-Buy hosts workshops in capital cities across Australia offering training around the following topics:

- Fundamentals of sustainable procurement.
- Writing a sustainable purchasing policy.
- Assess and prioritize your green spend.
- Greening your contracts and tenders.
- Supply chain engagement.
- Tracking and reporting green spend and marketing green products and services.

⁶ Suppliers are asked to provide / demonstrate evidence of environmental attributes of the product and verify material sources where applicable.

Results and environmental benefits achieved
<p>Over the history of the ECO-Buy Local Government Program, main results obtained are described below:</p> <ul style="list-style-type: none"> • The expenditure by all reporting ECO-Buy local government members has increased from AUD \$5 million (here after \$) in 2000–2001 to \$71.5 million in 2007–2008 and a slight drop to \$67.4 million in 2009-2010. • The number of green products purchased by members has grown from 80 in 2000-2001 to over 430 in 2009-2010. • Over 37,500 tonnes of CO₂ were avoided, 9.9 giga litres of water and 84 hectares of land were saved as a result of green products purchased in 2009-2010. • Recycled product spend has increased by \$3.3 million from 2008-2009 to 2009-2010, in part due to the increase in fleet management products. • In 2009-2010, 77 percent of members are making good progress in developing policies and strategies.
Funding
<p>Initially, ECO-Buy was financially supported by the Sustainability Fund and Sustainability Victoria (government department). In May 2007 ECO-Buy became an independent, self funding, non for profit organisation. Annual membership fees help to cover the cost of developing and delivering the ECO-Buy program. There are two membership options, base and accelerator.</p> <p>The accelerator program is available for those members wanting to 'accelerate' their green purchasing journey.</p>
Monitoring system
<p>ECO-Buy Local Government program is making efforts to improve the tracking and reporting of green product expenditure. Thanks to this program, local authorities are one of the sectors that report their improvement in buying green. In 2008, 49% of members had a tracking system in place and, in 2009-2010, 65 percent of ECO-Buy member informed about its green purchasing. Despite the improvement in reporting, the results showed the difficulties to monitor the procurement of green products.</p> <p>The results of green procurement are widely disseminated and certificates are delivered to members illustrating their improvement in green purchasing performance.</p>
Main barriers and way forward
<p>ECO-Buy is drawing the action plan for the following periods according to the results achieved, feedback received from governments and companies and needs identified. The new challenges appointed by the association for 2011-2012 are summarized below:</p> <ul style="list-style-type: none"> • Paving the way towards sustainable procurement: ECO-buy has established a strategic goal of extending the concept of purely green procurement to sustainable procurement. Nowadays, clients and members of the association are more interested in the adoption of sustainable procurement measures, since they need support for implementing initiatives and tools to implement this measure. • Working with ECO-Buy clients: tailored products will be developed for clients according to their needs and the state of development of their sustainable procurement policy. • Communication: a review of ECO-Buy communication tools will be carried out (website, newsletter, etc.). In addition, the association aims to increase the number of articles and opinion pieces in publications.

- Partnerships: the agreement with the Chartered Institute of Purchasing and Supply Australasia (CIPSA) will be consolidated. Other similar partnerships will be pursued by the association.

Sources

ECO-Buy Local Government Annual Report 2009-10

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ECO-Buy Annual report 2010/2011

ECO-Find Listing Criteria. October 2010

ECO-Buy Training brochure